



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/753,844

01/07/2004

Mark A. Hollar

136922003400

6024

25226 7590 04/01/2010

MORRISON & FOERSTER LLP  
755 PAGE MILL RD  
PALO ALTO, CA 94304-1018

EXAMINER

SHIBRU, HELEN

ART UNIT

PAPER NUMBER

2621

MAIL DATE

DELIVERY MODE

04/01/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/753,844	<b>Applicant(s)</b> HOLLAR, MARK A.	
	<b>Examiner</b> HELEN SHIBRU	<b>Art Unit</b> 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7-18, 21-30, 33-55, 58-62 and 65-76 is/are pending in the application.
- 4a) Of the above claim(s) 72-76 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-18, 21-30, 33-55, 58-62, 65-71 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of 1-4, 7-18, 21-30, 33-55, 58-62, and 65-71 in the reply filed on 01/26/2010 is acknowledged. The traversal is on the ground(s) that all the claims can be examined without undue burden on the Office. This is not found persuasive because the inventions are distinct each from the other and have acquired a separate status in the art and different classification required. The feature of "the indication of how long to allow subsequent digital storage is a pointer to video scan lines 21-22" as claimed in group II claims does not require for searching the limitation of "a watermark located in the modified an analog signal including an encoded number of digital storage duration units" as claimed in group I claims. The two features required search in separate class and subclass, and therefore create a serious burden on the Examiner.

The requirement is still deemed proper and is therefore made FINAL.

### ***Response to Amendment***

2. The amendments, filed 05/06/2009, have been entered and made of record. Claims 1-4, 7-18, 21-30, 33-55, 58-62, 65-71 are pending and claims 5-6, 19-20, 31-32, 56-57, 63-64 are cancelled. Claims 72-76 are withdrawn from further consideration.

### ***Response to Arguments***

3. Applicant's arguments with respect to claims 1-4, 7-18, 21-30, 33-55, 58-62, 65-71 in view of the newly amended limitation have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 7-11, 13-18, 21-23, 25-30, 33-43, 45-55, 58-62, 65-68, and 70-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sako et al (JP 09-098381) in view of Tozaki (US Pat. No. 5, 729, 516)).

**Regarding claims 1 and 15**, Sako et al disclose a method of and apparatus for encoding an analog video signal, comprising the acts of:

providing a digital video signal including content and data pertaining to control of subsequent uses of the content (Paragraph 0013 “digital data based on transmission control information for managing transmission which accompanies transmitted digital data”);

converting the digital video signal to an analog video signal (Paragraph 0059 “D/A conversion is once carried out to an analog video signal”);

extracting the data from the digital video signal (Paragraph 0025 “The copy management information for preventing the illegal copy which is generated by the copy-management-information generating circuit 3 and which is mentioned later is also supplied to the scramble circuit 9 concerned”);

generating signals modifying at least one characteristic in blanking intervals of the analog video signal from the extracted data to define an encoded pattern corresponding to the data, wherein each of the modified characteristics is of the type to inhibit making an acceptable analog recording of the video signal (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal”); and

using the generated signals to modify the analog video signal (Paragraph 0064 “The analog video signal with which this protection code signal was added is outputted from the analog output terminal 29”).

Sako et al disclose encoding a video signal wherein at least one characteristic defines various restrictions on copying (Paragraph 0029 “It is also possible for accounting information to also be included in copy management information”), and disclose that characteristic as defining an off state and an indication of allowing subsequent digital storage (Paragraph 0031 “Making it assign as bit CM<sub>M</sub> which directs not to forbid or forbid a copy only for the bit of b2, for example is also thought of”).

Claims 1 and 15 differ from Sako in that the claim further requires an indication of how long to allow subsequent digital storage wherein the indication of how long to allow subsequent digital storage is a watermark located in the modified analog video signal including an encoded number of a digital storage duration units.

In the same field of endeavor Tozaki teaches converting digital audio and video signal to analog video and audio signal (see figure 7, units 201 and 203). The output signal includes PCI data, presentation control information, where the audio copy

Art Unit: 2621

information and video copy information is located ( see figure 4 CV/CA=00, COPY PROHIBITED, CV/CA = 01 COPY PERMITTED ONLY ONCE, CV/CA=10 RESERVED, CV/CA= 11 COPY PERMITTED FOR UNLIMITED TIMES). Tozaki teaches PCI information is outputted (see col. 18 lines 2-11, col. 16 lines 33-45, col. 19 lines 41-65 and figure 8). Tozaki further teaches adding the copy information is performed either at the reproducing side or recording side (see col. 18 lines 12-41). Therefore in light of the teaching in Tozaki it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saki by adding a watermark on analog signal in order to protect the content from illegal duplicating by adding PCI information together with the audio and video data.

**Regarding claims 2 and 16**, Sako et al disclose a method of and apparatus for encoding an analog video signal, wherein there are two of the characteristics, a first being in the horizontal blanking intervals and a second being in the vertical blanking intervals (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal” and Paragraph 0113 “One of the above-mentioned split burst means reversing selectively the color burst provided in the position after the horizontal synchronizing pulse within a horizontal blanking interval...Color disturbance like color stripe generating is produced to the copied color video signal”).

**Regarding claims 3 and 17**, Sako et al disclose a method of and apparatus for encoding an analog video signal, wherein the characteristics are selected from a group consisting of: a phase of the color burst, the presence of paired negative and positive

going pulses, and the presence of a positive going pulse in back porches of horizontal synchronization signals (Paragraph 0113 “One of the above-mentioned split burst means reversing selectively the color burst provided in the position after the horizontal synchronizing pulse within a horizontal blanking interval...Color disturbance like color stripe generating is produced to the copied color video signal”).

**Regarding claims 4 and 18,** Sako et al disclose a method of and apparatus for encoding an analog video signal wherein the phase of the color burst is modified in a repeated pattern of 2 or 4 scan lines of the video signal (Paragraph 0113 “One of the above-mentioned split burst means reversing selectively the color burst provided in the position after the horizontal synchronizing pulse within a horizontal blanking interval, A two-line split bar stone means, respectively that a four-line split bar stone performs color burst reversal of four lines for performing color burst reversal of two lines continuously every 17 lines continuously every 21 lines again”).

**Regarding claims 7 and 21,** Sako et al disclose a method of and apparatus for encoding an analog video signal wherein the method is carried out in a set top box, DVD player, or playback device (Paragraph 0018 “a combination device and a method of video-signal reproduction which outputs and records”).

**Regarding claim 8,** Sako et al disclose a method of and apparatus for encoding an analog video signal wherein the uses include one of: transmitting the video signal across a network; displaying the video signal at a particular resolution or quality level; storing the video signal in digital form; and moving the video signal from a first to a

second digital storage device (Paragraph 0018 “A digital disk medium by which it comes to record the above-mentioned digital video signal”).

**Regarding claim 9**, Sako et al disclose a method of and apparatus for encoding an analog video signal, wherein the video signal includes audio (Paragraph 0009 “The above-mentioned preventing illegal copy measure is similarly desired, even if it is digital data of not only the Digital Video signal but digital audio signals, or others”).

**Regarding claims 10 and 22**, Sako et al disclose a method of and apparatus for encoding an analog video signal wherein the at least one characteristic is a pulse added to a back porch of a predetermined number of horizontal synchronization pulses in a vertical blanking interval of the video signal (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal. The protection code signal PCS concerned is inserted in 20H (H shows a horizontal period) eye in an odd number field, and is inserted in theH [ 283rd ] horizontal period in an even number field, for example”).

**Regarding claims 11 and 23**, Sako et al disclose a method of and apparatus for encoding an analog video signal, wherein the predetermined number is less than six (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal. The protection code signal PCS concerned is inserted in 20H (H shows a horizontal period) eye in an odd number field, and is inserted in theH [ 283rd ] horizontal period in an even number field, for example”).



**Regarding claims 13 and 25**, Sako et al disclose a method of and apparatus for encoding an analog video signal wherein the predetermined number defines the encoded pattern (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal. The protection code signal PCS concerned is inserted in 20H (H shows a horizontal period) eye in an odd number field, and is inserted in theH [ 283rd ] horizontal period in an even number field, for example”).

**Regarding claims 14 and 26**, Sako et al disclose a method of and apparatus for encoding an analog video signal wherein the predetermined number is in the range of zero to fifteen both prior to and after the vertical synchronization pulse of the vertical blanking interval (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal. The protection code signal PCS concerned is inserted in 20H (H shows a horizontal period) eye in an odd number field, and is inserted in theH [ 283rd ] horizontal period in an even number field, for example”).

**Regarding claim 27**, Sako et al disclose a method of processing a video signal, comprising the acts of:

- receiving an analog video signal with at least one characteristic in its blanking intervals modified to define an encoded pattern corresponding to data relating to subsequent digital use of the video signal, wherein the modified characteristic also is of the type to inhibit making an acceptable analog recording of the video signal (Paragraph 0018 “an input analog video signal

- by which amplitude adjustment was carried out by an automatic amplitude adjustment means to react to a recording scramble signal included in an input analog video signal on an analog recording medium” and Paragraph 0067 “The analog video signal with which the above-mentioned protection code signal supplied to the above-mentioned analog input terminal 81 was added on the other hand is sent also to the protection code signal detector circuit 88”);
- detecting the characteristic (Paragraph 0067 “The analog video signal with which the above-mentioned protection code signal supplied to the above-mentioned analog input terminal 81 was added on the other hand is sent also to the protection code signal detector circuit 88”);
  - converting the received analog video signal to a digital video signal (Paragraph 0059 “carry out the A/D conversion of this analog video signal again, and return and carry out digital recording to a digital video data”); and
  - using the detected characteristic to determine subsequent uses of the digital video signal (Paragraph 0067 “copy management information is newly generated based on the detected protection code signal concerned”).

Sako et al disclose encoding a video signal wherein at least one characteristic defines various restrictions on copying (Paragraph 0029 “It is also possible for accounting information to also be included in copy management information”), and disclose that characteristic as defining an off state and an indication of allowing subsequent digital storage (Paragraph 0031 “Making it

assign as bit  $CM_M$  which directs not to forbid or forbid a copy only for the bit of b2, for example is also thought of").

Claim 27 differ from Sako in that the claim further requires an indication of how long to allow subsequent digital storage wherein the indication of how long to allow subsequent digital storage is a watermark located in the analog video signal including an encoded number of a digital storage duration units.

In the same field of endeavor Tozaki teaches converting digital audio and video signal to analog video and audio signal (see figure 7, units 201 and 203). The output signal includes PCI data, presentation control information, where the audio copy information and video copy information is located ( see figure 4 CV/CA=00, COPY PROHIBITED, CV/CA = 01 COPY PERMITTED ONLY ONCE, CV/CA=10 RESERVED, CV/CA= 11 COPY PERMITTED FOR UNLIMITED TIMES). Tozaki teaches PCI information is outputted (see col. 18 lines 2-11, col. 16 lines 33-45, col. 19 lines 41-65 and figure 8). Tozaki further teaches adding the copy information is performed either at the reproducing side or recording side (see col. 18 lines 12-41). Therefore in light of the teaching in Tozaki it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saki by adding a watermark on analog signal in order to protect the content from illegal duplicating by adding PCI information together with the audio and video data.

**Regarding claim 28**, Sako et al disclose a method of processing a video signal, wherein there are two of the characteristics, a first being in the horizontal blanking intervals and a second being in the vertical blanking intervals (Paragraph 0064 "the

Art Unit: 2621

above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal” and Paragraph 0113 “One of the above-mentioned split burst means reversing selectively the color burst provided in the position after the horizontal synchronizing pulse within a horizontal blanking interval...Color disturbance like color stripe generating is produced to the copied color video signal”).

**Regarding claim 29**, Sako et al disclose a method of processing a video signal, wherein the characteristics are selected from a group consisting of a phase of the color burst, the presence of paired negative and positive going pulses, and the presence of a positive going pulse in back porches of horizontal synchronization signals (Paragraph 0113 “One of the above-mentioned split burst means reversing selectively the color burst provided in the position after the horizontal synchronizing pulse within a horizontal blanking interval...Color disturbance like color stripe generating is produced to the copied color video signal”).

**Regarding claim 30**, Sako et al disclose a method of processing a video signal, wherein the phase of the color burst is modified in a repeated pattern of 2 or 4 scan lines of the video (Paragraph 0113 “One of the above-mentioned split burst means reversing selectively the color burst provided in the position after the horizontal synchronizing pulse within a horizontal blanking interval, A two-line split bar stone means, respectively that a four-line split bar stone performs color burst reversal of four lines for performing color burst reversal of two lines continuously every 17 lines continuously every 21 lines again”).

**Regarding claim 33**, Sako et al disclose a method of processing a video signal, wherein the method is carried out in one of a set top box, a video recorder, or a personal computer (Paragraph 0018 “a combination device and a method of video-signal reproduction which outputs and records”).

**Regarding claim 34**, Sako et al disclose a method of processing a video signal comprising the act of storing the digital video signal (Paragraph 0084 “the data outputted from the above-mentioned copy-management-information additional circuit being sent to the optical head device 90 or a magnetic head, after error correcting code-ized processing, modulation data processing, etc. are performed in an encoder / modulation circuit 89, and receiving optical disc RD -- the above-mentioned -- the same -- optical or light -- magnetic record is performed”).

**Regarding claim 35**, Sako et al disclose a method of processing a video signal, comprising the act of converting the digital signal to MPEG format prior to the act of storing (Paragraph 0066 “compression encoding of an MPEG 2 standard is performed here, and the digital video data concerned is sector-ized per the amount unit of prescribed data, for example, 2048 bytes”).

**Regarding claim 36**, Sako et al disclose a method of processing a video signal, comprising the acts of compressing and encrypting the digital signal prior to the act of storing (Paragraph 0066 “compression encoding of an MPEG 2 standard is performed here, and the digital video data concerned is sector-ized per the amount unit of prescribed data, for example, 2048 bytes” and Paragraph 0083 “the enciphered digital video data will be outputted from the enciphering circuit concerned”).

**Regarding claim 37**, Sako et al disclose a method of processing a video signal comprising the act of disabling usage of the video as analyzed and discussed above, but do not specifically disclose that disabling at the expiration of a time determined by the encoded pattern.

Tozaki teaches copy permitted only once information and copying will be disabled after copying only once.

**Regarding claim 38**, Sako et al disclose a method of processing a video signal comprising the act of preventing decryption of the stored video (Paragraph 0083 “the enciphered digital video data will be outputted from the enciphering circuit concerned”), but do not specifically disclose such restriction at the expiration of a time determined by the encoded pattern.

Tozaki teaches copy permitted only once information and copying will be disabled after copying only once.

**Regarding claim 39**, Sako et al disclose a method of processing a video signal comprising the acts of:

- converting the stored digital video signal to an output analog video signal (Paragraph 0059 “D/A conversion is once carried out to an analog video signal”); and
- modifying the characteristic in the output analog video signal thereby to inhibit making an acceptable video recording therefrom (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal”).

**Regarding claim 40**, Sako et al disclose a method of processing a video signal, wherein the uses include one of: transmitting the video signal across a network; displaying the video signal at a particular resolution or quality level; storing the video signal in digital form; and moving the video signal from a first to a second digital storage (Paragraph 0018 “A digital disk medium by which it comes to record the above-mentioned digital video signal”).

**Regarding claim 41**, Sako et al disclose a method of processing a video signal wherein the video signal includes audio (Paragraph 0009 “The above-mentioned preventing illegal copy measure is similarly desired, even if it is digital data of not only the Digital Video signal but digital audio signals, or others”).

**Regarding claim 42**, Sako et al disclose a method of processing a video signal wherein the at least one characteristic is a pulse added to a back porch of a predetermined number of horizontal synchronization pulses in a vertical blanking interval of the video signal (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal. The protection code signal PCS concerned is inserted in 20H (H shows a horizontal period) eye in an odd number field, and is inserted in theH [ 283rd ] horizontal period in an even number field, for example”).

**Regarding claim 43**, Sako et al disclose a method of processing a video signal wherein the predetermined number is less than six (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal. The protection code signal

PCS concerned is inserted in 20H (H shows a horizontal period) eye in an odd number field, and is inserted in theH [ 283rd ] horizontal period in an even number field, for example”).

**Regarding claim 45,** Sako et al disclose a method of processing a video signal wherein the predetermined number defines the encoded pattern (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal. The protection code signal PCS concerned is inserted in 20H (H shows a horizontal period) eye in an odd number field, and is inserted in theH [ 283rd ] horizontal period in an even number field, for example”).

**Regarding claim 46,** Sako et al disclose a method of processing a video signal, wherein the predetermined number is in the range of zero to fifteen both prior to and after the vertical synchronization pulse of the vertical blanking interval (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal. The protection code signal PCS concerned is inserted in 20H (H shows a horizontal period) eye in an odd number field, and is inserted in theH [ 283rd ] horizontal period in an even number field, for example”).

**Regarding claim 47,** Sako et al disclose a video decoding apparatus comprising:

- a port adapted to receive an analog video signal (Paragraph 0059 “the analog input terminal 81”);



Art Unit: 2621

- a detector coupled to the port and which detects modifications to at least one characteristic in blanking intervals of the analog video signal (Paragraph 0067 “The analog video signal with which the above-mentioned protection code signal supplied to the above-mentioned analog input terminal 81 was added on the other hand is sent also to the protection code signal detector circuit 88”);
- a control circuit coupled to an output terminal of the detector and which provides a control signal in response to detection of an encoded pattern defined by the modified characteristic (Paragraph 0067 “The analog video signal with which the above-mentioned protection code signal supplied to the above-mentioned analog input terminal 81 was added on the other hand is sent also to the protection code signal detector circuit 88”);
- an analog to digital converter coupled to the port to receive the analog video signal (Paragraph 0059 “carry out the A/D conversion of this analog video signal again, and return and carry out digital recording to a digital video data”);
- an encoder coupled to an output terminal of the analog to digital converter (Paragraph 0066 “the analog video signal supplied via the above-mentioned analog input terminal 81 is changed into a digital video data by the A/D conversion circuit 82. It is sent to the compression encoding circuit 83, and compression encoding of an MPEG 2 standard is performed here, and the

- digital video data concerned is sector-ized per the amount unit of prescribed data, for example, 2048 bytes”); and
- a combiner coupled to an output terminal of the decoder and to receive the control signal from the control circuit, thereby to output a digital video signal including data indicating its subsequent uses (Paragraph 0066 “The data which compression encoding was carried out and was sector-ized in the compression encoding circuit 83 concerned is sent to the scramble circuit 85”).

Sako et al disclose encoding a video signal wherein at least one characteristic defines various restrictions on copying (Paragraph 0029 “It is also possible for accounting information to also be included in copy management information”), and disclose that characteristic as defining an off state and an indication of allowing subsequent digital storage (Paragraph 0031 “Making it assign as bit  $CM_M$  which directs not to forbid or forbid a copy only for the bit of b2, for example is also thought of”).

Claim 47 differ from Sako in that the claim further requires an indication of how long to allow subsequent digital storage wherein the indication of how long to allow subsequent digital storage is a watermark located in the analog video signal including an encoded number of a digital storage duration units.

In the same field of endeavor Tozaki teaches converting digital audio and video signal to analog video and audio signal (see figure 7, units 201 and 203). The output signal includes PCI data, presentation control information, where the audio copy

Art Unit: 2621

information and video copy information is located (see figure 4 CV/CA=00, COPY PROHIBITED, CV/CA = 01 COPY PERMITTED ONLY ONCE, CV/CA=10 RESERVED, CV/CA= 11 COPY PERMITTED FOR UNLIMITED TIMES). Tozaki teaches PCI information is outputted (see col. 18 lines 2-11, col. 16 lines 33-45, col. 19 lines 41-65 and figure 8). Tozaki further teaches adding the copy information is performed either at the reproducing side or recording side (see col. 18 lines 12-41). Therefore in light of the teaching in Tozaki it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saki by adding a watermark on analog signal in order to protect the content from illegal duplicating by adding PCI information together with the audio and video data.

**Regarding claim 48,** Sako et al disclose a video decoding apparatus wherein the analog to digital converter is coupled between the port and the detector (Drawing 9, item 82).

**Regarding claim 49,** Sako et al disclose a video decoding apparatus wherein the detector is coupled to receive the analog video signal in analog form (Paragraph 0067 "The analog video signal with which the above-mentioned protection code signal supplied to the above-mentioned analog input terminal 81 was added on the other hand is sent also to the protection code signal detector circuit 88").

**Regarding claim 50,** Sako et al disclose a video decoding apparatus further comprising a storage device coupled to store the video signal in digital form (Paragraph 0075 "optical disc RD to which the digital video data was copied").

**Regarding claim 51,** Sako et al disclose a video encoding apparatus wherein the encoder is an MPEG encoder (Paragraph 0066 “the compression encoding circuit 83, and compression encoding of an MPEG 2 standard is performed here”).

**Regarding claim 52,** Sako et al disclose a video decoding apparatus further comprising:

- a compression circuit coupled to receive the encoded video signal (Paragraph 0066 “the compression encoding circuit 83, and compression encoding of an MPEG 2 standard is performed here”); and
- an encryption circuit coupled to receive the compressed video signal (Paragraph 0083 “the enciphered digital video data will be outputted from the enciphering circuit concerned”).

**Regarding claim 53,** Sako et al disclose a video decoding apparatus, wherein there are two of the characteristics, a first being in the horizontal blanking intervals and a second being in the vertical blanking intervals (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal” and Paragraph 0113 “One of the above-mentioned split burst means reversing selectively the color burst provided in the position after the horizontal synchronizing pulse within a horizontal blanking interval...Color disturbance like color stripe generating is produced to the copied color video signal”).

**Regarding claim 54,** Sako et al disclose a video decoding apparatus wherein the characteristics are selected from a group consisting of: a phase of the color burst,

Art Unit: 2621

the presence of paired negative and positive going pulses, and the presence of a positive going pulse in back porches of horizontal synchronization signals (Paragraph 0113 "One of the above-mentioned split burst means reversing selectively the color burst provided in the position after the horizontal synchronizing pulse within a horizontal blanking interval...Color disturbance like color stripe generating is produced to the copied color video signal").

**Regarding claim 55,** Sako et al disclose a video decoding apparatus wherein the phase of the color burst is modified in a repeated pattern of 2 or 4 scan lines of the video (Paragraph 0113 "One of the above-mentioned split burst means reversing selectively the color burst provided in the position after the horizontal synchronizing pulse within a horizontal blanking interval, A two-line split bar stone means, respectively that a four-line split bar stone performs color burst reversal of four lines for performing color burst reversal of two lines continuously every 17 lines continuously every 21 lines again").

**Regarding claim 58,** Sako et al disclose a video decoding apparatus wherein the apparatus is in one of a set top box, a video recorder, or a personal computer (Paragraph 0018 "a combination device and a method of video-signal reproduction which outputs and records").

**Regarding claim 59,** Sako et al disclose a record carrier having material recorded thereon, the recorded material comprising:

- a video signal including in its blanking intervals at least one modified characteristic defining an encoded pattern corresponding to data relating to

Art Unit: 2621

- subsequent uses of the video signal (in the optical-disk-recording playback equipment 80, detection of the analog protection pulse APP is also performed besides detection of said protection code signal PCS in the protection code signal detector circuit 88);
- wherein the modified characteristic is of the type to inhibit making an acceptable analog recording of the video signal (in the optical-disk-recording playback equipment 80, detection of the analog protection pulse APP is also performed besides detection of said protection code signal PCS in the protection code signal detector circuit 88).

Sako et al disclose encoding a video signal wherein at least one characteristic defines various restrictions on copying (Paragraph 0029 “It is also possible for accounting information to also be included in copy management information”), and disclose that characteristic as defining an off state and an indication of allowing subsequent digital storage (Paragraph 0031 “Making it assign as bit  $CM_M$  which directs not to forbid or forbid a copy only for the bit of b2, for example is also thought of”).

Claim 59 differ from Sako in that the claim further requires an indication of how long to allow subsequent digital storage wherein the indication of how long to allow subsequent digital storage is a watermark located in the analog video signal including an encoded number of a digital storage duration units.

In the same field of endeavor Tozaki teaches converting digital audio and video signal to analog video and audio signal (see figure 7, units 201 and 203). The output

Art Unit: 2621

signal includes PCI data, presentation control information, where the audio copy information and video copy information is located (see figure 4 CV/CA=00, COPY PROHIBITED, CV/CA = 01 COPY PERMITTED ONLY ONCE, CV/CA=10 RESERVED, CV/CA= 11 COPY PERMITTED FOR UNLIMITED TIMES). Tozaki teaches PCI information is outputted (see col. 18 lines 2-11, col. 16 lines 33-45, col. 19 lines 41-65 and figure 8). Tozaki further teaches adding the copy information is performed either at the reproducing side or recording side (see col. 18 lines 12-41). Therefore in light of the teaching in Tozaki it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Saki by adding a watermark on analog signal in order to protect the content from illegal duplicating by adding PCI information together with the audio and video data.

**Regarding claim 60**, Sako et al disclose a record carrier having material recorded thereon wherein there are two of the characteristics, a first being in the horizontal blanking intervals and a second being in the vertical blanking intervals (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal” and Paragraph 0113 “One of the above-mentioned split burst means reversing selectively the color burst provided in the position after the horizontal synchronizing pulse within a horizontal blanking interval...Color disturbance like color stripe generating is produced to the copied color video signal”).

**Regarding claim 61**, Sako et al disclose a record carrier having material recorded thereon wherein the characteristics are selected from a group consisting of: a

Art Unit: 2621

phase of the color burst, the presence of paired negative and positive going pulses, and the presence of a positive going pulse in back porches of horizontal synchronization signals (Paragraph 0113 "One of the above-mentioned split burst means reversing selectively the color burst provided in the position after the horizontal synchronizing pulse within a horizontal blanking interval...Color disturbance like color stripe generating is produced to the copied color video signal").

**Regarding claim 62,** Sako et al disclose a record carrier having material recorded thereon wherein the phase of the color burst is modified in a repeated pattern of 2 or 4 scan lines of the video signal (Paragraph 0113 "One of the above-mentioned split burst means reversing selectively the color burst provided in the position after the horizontal synchronizing pulse within a horizontal blanking interval, A two-line split bar stone means, respectively that a four-line split bar stone performs color burst reversal of four lines for performing color burst reversal of two lines continuously every 17 lines continuously every 21 lines again").

**Regarding claim 65,** Sako et al disclose a record carrier having material recorded thereon wherein the carrier is a video disc or video tape (Paragraph 0065 "An A/D conversion shall be carried out with the disk recording playback equipment 80, it shall be considered as a digital video data, and digital recording of this digital video data shall be carried out to optical disc RD").

**Regarding claim 66,** Sako et al disclose a record carrier having material recorded thereon wherein the carrier is a video disc carrying a plurality of bits indicating the modified characteristic (Paragraph 0065 "An A/D conversion shall be carried out



with the disk recording playback equipment 80, it shall be considered as a digital video data, and digital recording of this digital video data shall be carried out to optical disc RD”).

**Regarding claim 67,** Sako et al disclose a record carrier having material recorded thereon wherein the at least one characteristic is a pulse added to a back porch of a predetermined number of horizontal synchronization pulses in a vertical blanking interval of the video signal (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal. The protection code signal PCS concerned is inserted in 20H (H shows a horizontal period) eye in an odd number field, and is inserted in theH [ 283rd ] horizontal period in an even number field, for example”).

**Regarding claim 68,** Sako et al disclose a record carrier having material recorded thereon wherein the predetermined number is less than six (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal. The protection code signal PCS concerned is inserted in 20H (H shows a horizontal period) eye in an odd number field, and is inserted in theH [ 283rd ] horizontal period in an even number field, for example”).

**Regarding claim 70,** Sako et al disclose a record carrier having material recorded thereon wherein the predetermined number defines the encoded pattern (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video

Art Unit: 2621

signal. The protection code signal PCS concerned is inserted in 20H (H shows a horizontal period) eye in an odd number field, and is inserted in the H [ 283rd ] horizontal period in an even number field, for example”).

**Regarding claim 71**, Sako et al disclose a record carrier having material recorded thereon wherein the predetermined number is in the range of zero to fifteen both prior to and after the vertical synchronization pulse of the vertical blanking interval (Paragraph 0064 “the above-mentioned protection code signal PCS is mixed at the predetermined horizontal period of the vertical blanking interval of an analog video signal. The protection code signal PCS concerned is inserted in 20H (H shows a horizontal period) eye in an odd number field, and is inserted in the H [ 283rd ] horizontal period in an even number field, for example”).

6. Claims 12, 24, 44 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination as applied to claims above, and further in view of Quan (6,421,497).

**Regarding claims 12, 24, 44, and 69**, Sako et al disclose an analog video signal wherein an acceptable analog recording is allowed (Paragraph 0031 “Making it assign as bit  $CM_M$  which directs not to forbid or forbid a copy only for the bit of b2, for example is also thought of”), but do not specifically disclose the method as being the predetermined number is insufficient to inhibit making an acceptable analog recording.

Quan teaches an analog copy protection scheme of reducing the predetermined number to a point where an acceptable analog recording is possible (Col 4, lines 29-33 “The methods and apparatuses for removing or defeating effects of copy protection

Art Unit: 2621

signals include modifying less than all of the lines in which the copy protection signals are present, but sufficient of the lines so that the acceptable video recording can be made”) , allowing the user to copy a program he or she may wish to view at a later time.

As taught by Quan, setting the predetermined number to such a point where acceptable analog recordings can be made is well known, providing advantages to the customer and vendor, and would therefore have been obvious to one of ordinary skill in the art at the time of the invention as a modification to Sako et al and Tozaki et al.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 2621

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HELEN SHIBRU whose telephone number is (571)272-7329. The examiner can normally be reached on M-F, 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, THAI Q. TRAN can be reached on (571) 272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/HELEN SHIBRU/  
Examiner, Art Unit 2621  
March 27, 2010

/Thai Tran/  
Supervisory Patent Examiner, Art Unit 2621

Application/Control Number: 10/753,844  
Art Unit: 2621

Page 28